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September 16, 2004

VIA ELECTRONIC FILING
Marlene H. Dortch, Secretary
Federal Communications Commission
Office of the Secretary
c/o Vistronix, Inc.
236 Massachusetts Avenue, N.E., Suite 110
Washington, D.C. 20002

Re: ***Ex Parte Memorandum regarding Facilitation of Widespread Deployment of and Access to Wireless Services***
WT Docket Nos. 03-264 and 04-180.

Dear Ms. Dortch:

In comments in these proceedings, Ericsson has made proposals for revision to the Section 24.232 of the FCC's administrative rules, including that the FCC:

1. Revise its requirement that transmitter output power and EIRP be measured on a "peak" basis, to allow measurement on an "average" basis as an alternative;
2. Remove or increase its transmitter output power limits;
3. Increase its EIRP limit;
4. Restructure its base station EIRP limit to 6560 watts EIRP per-MHz per-carrier for carrier bandwidths 1 MHz and greater, and 6560 watts EIRP per-carrier for carrier bandwidths less than 1 MHz; and
5. Allow the use of bandwidth conversion to be able to calculate proper limits when using carrier bandwidths greater than 1 MHz.

Ericsson is a leader in the "after-sales" market which consists mainly of operational services, such as support services, network operational services, network optimization, and installation services. Therefore, its interest in revising the method of measurement for output power is similar to carriers in the PCS band. Currently, the rule specifies that both transmitter output power limits *and EIRP* be measured on a "peak" basis. However, the rule also specifies inconsistently that the equipment to measure the peak be calibrated in terms of root-mean-square

(RMS). Therefore, many in the industry have interpreted the rule to allow average measurement methods. To provide clarity to carriers and other entities that use these rules in practice, and to make the rule internally consistent, the FCC should revise the rule to state that an average method of measurement may also be used.

Additionally, using peak measurements for non-constant envelope technologies like CDMA and WCDMA does not provide an accurate picture of the power in the band. In fact, such a measurement only captures and represents the power peaks with duration of sub-micro seconds that occur with a low probability in the band and therefore artificially assigns a much higher power in the band than levels observed during operation. On March 10, 2004, the FCC confirmed in an email to the Swedish TCB that the FCC permitted use of average measurements, as follows:

> The "relaxation" for noise-like signal measurements is the allowance to use an Average detector instead of Peak or RMS detectors. Since the rules specify the peak power is the RMS equivalent power, we could force the use of only a RMS or Peak detector for measurements. But instead, we allow an Average detector to be more fair when measuring CDMA and broadband signals, which would yield a lower power reading as compared to RMS or Peak detectors. This means that 100 watts measured with an Average detector for a CDMA signal may be 1000 watts peak power, but we would allow this to be approved.

Ericsson supports the selection of average or peak methods of measurement, as is allowed for OOBE, and asks that the rule be modified in this way in this Biennial Review.

Increasing the limits for output power can provide additional flexibility for carriers and managed services which will support network optimization and installation services. This is especially beneficial when deploying services in rural areas where coverage, rather than capacity, is the central concern. Ericsson reiterates its support for more flexibility in transmitter output power limits and specifically supports an increased EIRP limit to 6560 watts EIRP for all technologies. Such an increase would allow all technologies to benefit from increased capabilities without significantly enhancing the position of one technology over another.

In fact, the approach to increase EIRP limits would not allow narrowband technologies, such as GSM, to use significantly more total power, as asserted by Qualcomm in its filed comments, than other technologies since there is a bound to the number of carriers that can operate in 1 MHz bandwidth. Of course, in a rural environment, it is expected that only one carrier would be used. Otherwise, for acceptable operation, GSM requires a 12-frequency reuse distance (please refer to the attachment for additional details), which limits the number of carriers in 1 MHz.

Using 5 MHz as an example, it is possible to use two carriers in each cell (24:12=2), where 24 is the total number of carriers in a 5 MHz band. A 12-frequency reuse distance means

that there are 12 x 200 kHz (GSM bandwidth), which equates to 2400 kHz between the carriers. Therefore, transmitting on two carriers at maximum power, all the time, requires 2.4 MHz frequency separation. In some improved environments, conditions permit a 9-frequency reuse, which permits less frequency distance (1.8 MHz) between carriers. Besides the bound on the number of possible carriers in 1 MHz, additional technical and economic constraints exist when deploying systems which effectively prevents significantly greater total power in the band.

Carriers need the flexibility provided through greater EIRP limits, particularly in serving rural areas, regardless of the technology used. Changing the rule from a per-carrier basis to Power Spectral Density for narrowband equipment is not a technology neutral approach to applying EIRP limits. All existing and future developments of narrowband equipment would be negatively impacted by a Power Spectral Density limit. Moreover, grandfathering of existing equipment is not a serious means by which to address the impact and uncertainty such a limit would have on the market. On the other hand, Ericsson's proposals provide additional flexibility in the deployment of systems, but in a technology-neutral way. Ericsson recommends that the Commission make the requested changes to update its rules consistent with technological improvements.

Pursuant to Section 1.1206 of the Commission's rules, this letter is being electronically filed with your office. If you have any questions concerning this submission, please contact the undersigned.

Sincerely,

s/ Mark Racek
Mark Racek
Director, Spectrum Policy
Ericsson Inc

s/ Elisabeth H. Ross
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Attorney for Ericsson Inc

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